

DESIGN TOOL SOLAR DRYER (OPTIMUM IN CALCULATING HEAT TOOL SOLAR DRYER FOR EFFICIENCY TOOL)

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ABSTRACT

Photovolteik solar drier is one example of the utilization of solar energy is very useful. By using this type of solar dryers can dry our crops, and commodity trading results without the use of fossil fuels, and can result in drying the product is not contaminated by dust, dirt, pollution vehicles that cause less hygienic products. The working principle of these dryers are energy solar panels solar radiation received, then the received energy is converted into electricity, the electricity is stored in baterai and is used to turn on the oven light dryers. The air that is in the room not to be confused with pangering outside air conditioning, because a sealed oven, so hot air heats the shelves are arranged in a drying oven. The purpose of this study is to dry commodities such as ginger slices of initial moisture content of $\pm 50\%$ in the desire to be $\pm 11\%$ - 12% . Air Media is a hot air generated by the lamp in an oven dryers, which if turned on photovoltaic solar power generation. After doing research with experimental methods and performed several tests it was found that at a temperature 60°C until 70°C is the highest efficiency that is equal to $\pm 24\%$.

Key words: solar dryer equipment, photovolteik, heat loss, drying rack.